

What is claimed is:

1. An automatic train stop system, in which a track circuit is divided into a plurality of track circuit sections, and a digitized train control information telegram is transmitted through the track circuit on carriers having different frequencies for adjacent track circuit sections, characterized in that a carrier sensor mounted on a train receives a frequency of a carrier in the track circuit and detects a track circuit boundary by detecting a change of the frequency, whereby an onboard system grasps the position thereof.

2. The automatic train stop system according to claim 1, wherein the onboard system having received the digitized train control information telegram performs, after the telegram information is validated, correction of a position with respect to the track circuit boundary using a train speed and a system response time.

3. The automatic train stop system according to claim 1 or claim 2, wherein the onboard system having received the digitized train control information telegram generates a one-step braking pattern for a block end aspect speed based on a pattern end type, a block inner length or track circuit length, a block end aspect speed, an average gradient or the like in the telegram information, and constantly checks the speed on the train.

4. The automatic train stop system according to any one of claims 1 to 3, wherein in the case of an insulating track circuit section, the digitized train control information telegram is transmitted to the track circuit section constantly or when the head of the train lies within the track circuit section and a route is set, and in the case of a non-insulating track circuit section, the digitized train control information telegram is transmitted to the track circuit section when the head of the train lies within the track circuit section.

5. The automatic train stop system according to any one of claims 1 to 4, wherein a digitized train detection telegram is transmitted to the track circuit constantly.